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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/771,245	RIGHI ET AL.	
	Examiner	Art Unit	
	J. Derek Rutten	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6-19 and 22-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6-19 and 22-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/07 has been entered.

2. This action is in response to Applicant's submission filed 10/31/07, responding to the 6/29/07 Office action which detailed the rejection of claims 1-3, 5-19, and 22-40. Claims 1, 6, and 7 have been amended, and claims 4, 5, 20, and 21 have been canceled. Claims 1-3, 6-19, and 22-40 remain pending in the application and have been fully considered by the examiner.

Response to Arguments/Amendments

3. On page 10, filed 10/31/07, Applicants agree to address the double patenting rejection "once allowable claims associated with either the current application or the copending application are determined." Therefore, the rejection is maintained.

4. On page 13 with respect to the rejection of claim 1, Applicants argue that prior art of record **Reuss** does not disclose "receiving a broadcast status request prior to updating the current firmware; in response to receiving the broadcast status request, determining whether a rebroadcast of any fragment of the new firmware image is necessary; in response to determining that the rebroadcast of one or more fragments is necessary, sending a request for the rebroadcast

of the fragments; and receiving the rebroadcast of the fragments in response to sending the request." It is noted that **Reuss** is only relied upon to teach *"receiving a broadcast status request prior to updating the current firmware,"* and Applicants have not addressed Luby et al., US 2002/0129159, used previously in the rejection of claim 5 for the remaining limitations. Nonetheless, Applicants' argument is persuasive and the rejection is withdrawn. However, upon further consideration, a new rejection is made in view of "Java Network Programming, 2nd Edition" by Harold.

5. Applicant's further arguments filed 10/31/07 have been fully considered but they are not persuasive.

6. On pages 11-12 with respect to the rejection of claim 1, Applicants appear to argue that the **Lajoie** reference does not disclose upgrading firmware, since the prior action has interpreted the upgrade of **Lajoie's** application program 310 to be an operating system. This argument is based on the assumption firmware and operating systems are mutually exclusive. However, a reasonable broad interpretation of the claim language does not restrict the firmware from containing an operating system. In the case of **Lajoie**, the operating system is part of the firmware (see column 5 lines 11-13: "The application program 310 is typically the control program of the corresponding device 120"). Therefore, this argument is not persuasive.

7. At the top of page 12, Applicants argue with respect to the rejection of claim 1, that **Doherty** teaches away from the invention of claim 1 since **Doherty** discloses a "client-initiated request." However, Applicants have not shown where **Doherty** actually discourages any server-initiated upgrade process. Further, according to Applicants' argument, Applicants' own disclosure would teach away from the invention since the originally filed specification teaches

client-initiated requests (see at least page 3: "The method involves sending a recovery request from the network attached computer over the distributed network to a recovery manager computer"). Therefore, the argument is not persuasive.

8. In response to applicant's argument regarding the rejection of claim 1 (see the bottom of page 12) that **Doherty** cannot be combined with **Lajoie** since **Doherty's** rebooting is incompatible with **Lajoie's** update program 320, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

9. At the top of page 14 with respect to the rejection of claim 16, Applicants essentially argue that the prior art of record **Wu** does not disclose "booting the network attached computer with the current firmware in response to determining that the current firmware within the network attached computer is valid." However, this argument is moot since a new reading of **Lajoie** reveals disclosure of this limitation (see column 4 lines 35-39).

10. At the bottom of page 14 with respect to the rejection of claim 16, Applicants appear to argue that the cited portions of **Lajoie** do not disclose "sending a recovery request in response to determining that the current firmware is invalid." However, **Lajoie** further discloses this limitation at column 4 lines 35-39. Therefore, this argument is not persuasive.

11. At the top of page 15 regarding the rejection of claim 32, Applicants argue that "*Lajoie* does not disclose that the device120 transitions to an OS independent recovery state in response

to receiving the escape message, nor does *Lajoie* disclose sending a notification of readiness to the server 110. Indeed, since *Lajoie* discloses that control is automatically transferred to the upgrade program 320 in the server 110, there is no need and no purpose for the device 120 to even send a readiness message to the server 110." However, **Lajoie** discloses transitioning out of normal operating mode in response to the escape message (see column 4 lines 23-24: "Upon reception of the escape message, the device 120 breaks out of its normal operation mode"). **Lajoie** further discloses sending notification to the server (see column 4 lines 26-29: "waiting for an acknowledgment from the device"). Further, as shown in FIG. 2, the upgrade program 320 appears as part of the NVM on the device, not on the server as suggested. Reasonable broad interpretation permits Lajoie to read on the claim language. Therefore, the argument is not persuasive.

12. Applicants' arguments in regard to the rejection of claim 37 are the same as arguments provided regarding the rejection of claim 16. Accordingly, this argument is not persuasive for the same reasons set forth above.

13. At the bottom of page 16 in regard to the rejection of claim 13, Applicants argue that **Lajoie** does not disclose "wherein the firmware within the network attached computer comprises a BIOS of the network attached computer." Applicants' argument appears to suggest that **Lajoie's** application program is an operating system and cannot be regarded as a BIOS. Applicant has not shown why a BIOS cannot be regarded to be an operating system. A reasonable broad interpretation of the term "operating system" permits **Lajoie** to read on the claim.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims **1-3** and **6-15** and **32** are provisionally rejected on the ground of nonstatutory double patenting over claims **1-3** and **5-12** and **15-17** of copending Application No. 10/770,951. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

In regard to claim **1**, it would be inherent over claims **1** and **5** of the cited co-pending application to perform the upgrade "at least one network attached computer" in a network in light of performing the method on "a plurality of computing devices" in a distributed network. It also would have been obvious that a "firmware maintenance procedure" as recited in the co-pending application is a type of "firmware re-covery" procedure as recited in the instant application.

In regard to claims **7** and **8**, see claim **7** of the co-pending application.

In regard to claims **2-3, 6, 9-15** and **32**, see claims **2-3, 6, 8-12** and **15-17**, respectively.

Claim Rejections - 35 USC § 101

15. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

16. Claim 31 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 31 is directed to a "computer readable medium" which is interpreted as being related to a statutory product. Page 4 of the originally filed specification recites: "The computer program product may also be a propagated signal on a carrier readable by a computing system and encoding a computer program of instructions for executing a computer process." Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in Sec. 101. First, a claimed signal is clearly not a "process" under § 101 because it is not a series of steps. A claimed signal has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine. A claimed signal is not matter, but a form of energy, and therefore is not a composition of matter. A product is a tangible physical article or object, some form of matter, which a signal is not. See, e.g., *In re Nuitjen*, Docket no. 2006-1371 (Fed.

Cir. Sept. 20, 2007)(slip. op. at 18)("A transitory, propagating signal like Nuitjen's is not a 'process, machine, manufacture, or composition of matter.' ... Thus, such a signal cannot be patentable subject matter."). In contrast, a tangibly claimed computer-readable medium (e.g. magnetic or optical disk) encoded with a data structure defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus statutory. See MPEP 2106(IV)(B).

Claim Rejections - 35 USC § 102

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

18. Claims 16, 17, 22, 23, 28-33, 36-38 and 40 rejected under 35 U.S.C. 102(e) as being anticipated by Lajoie et al., US 7,093,244 (**Lajoie**).

In regard to claim **16**, **Lajoie** discloses:

- "... *A method for recovering firmware on a network attached computer over a distributed network...*" (E.g. see FIG. 6).
- "*...determining whether a current firmware within the network attached computer is invalid;*." (e.g. see column 4 lines 35-39: "Alternatively, a device

120 may initiate the upgrade process if it determines that it holds a corrupted firmware (device-initiated upgrade).").

- "*...booting the network attached computer with the current firmware in response to determining that the current firmware within the network attached computer is valid...*" (E.g., see column 7 lines 45-47: "If the firmware passes the CRC-16 integrity check, the FIC 350 transfers control to the application program 310.")
- "*...sending a recovery request in response to determining that the current firmware is invalid...*" (E.g., column 4 lines 35-38; also see Figure 5 and column 7 lines 47-48). **Lajoie** shows that an upgrade protocol is initiated if the firmware is invalid.
- *"in response to sending the recovery request, receiving a new firmware image over the distributed network;"* (E.g. see column 6 lines 39-41: " The upgrade of the application program 310 is simply achieved by copying the new application program 310 from the server 110 to the application program memory area 220." Also see column 6 lines 49-67.)
- *"in response to receiving the new firmware image, updating a current firmware with the new firmware image."* (e.g. see column 4 lines 32-34 "writing to the device")

In regard to claim **17**, the above rejection of claim **16** is incorporated. Lajoie further discloses: "*wherein the recovery request is sent to a network address of a recovery manager computer storing the new firmware image.*" (See FIG. 1, elements 110 and 170; also see column

4 lines 1-9.) Note that without an address, communication using an "Internet link" would not be possible.

In regard to claim **22**, the rejection of base claim **17** is incorporated. **Lajoie** further discloses: "*...determining whether the current firmware is valid after being updated with the new firmware image;*" (e.g. see column 4 lines 35-39: "Alternatively, a device 120 may initiate the upgrade process if it determines that it holds a corrupted firmware (device-initiated upgrade)." Also see Fig. 5 "Power up or reset" and Fig. 6 "Reset" - validation occurs after every reset, and reset occurs after every update). "*...in response to determining that the current firmware is valid, booting the network attached computer.*" (E.g., see column 7 lines 45-47: "If the firmware passes the CRC-16 integrity check, the FIC 350 transfers control to the application program 310.")

In regard to claim **23**, the above rejection of claim **16** is incorporated. All further limitations have been addressed in the following rejection of claim **3**.

In regard to claims **28** and **29**, the above rejection of claim **16** is incorporated. All further limitations have been addressed in the following rejections of claims **12** and **13**, respectively.

In regard to claims **30** and **31**, all limitations have been addressed in the following rejection of claims **14** and **15**, respectively.

In regard to claim **32**, Lajoie discloses:

-"*A system for updating the firmware of at least one network attached computer over a network*" (See Fig. 1), "*the system comprising:*"

-"*a first computer*" (see Fig. 1 element 110) "*operative to:*"

-*"send an instruction to update the firmware of the network attached computer over the network;* " (E.g., see Figure 3 & Column 4, lines 20-23), wherein the server initiates the upgrade process by sending out the escape command to the application program (operating system) which controls the device.

-*"receive a notification of readiness for update from the network attached computer over the network; and* " (see column 4 lines 35-39, e.g. "device-initiated upgrade" and "initiate the upgrade"; also see Fig. 5 "Initiate upgrade protocol") Note that if notification was not received, then the update could not occur since the server must respond to the device as addressed below.

-*"in response to receiving the notification of readiness, send a new firmware image over the network; and "*(see column 6 lines 55-63: "Instructions are then given to copy the new upgrade program 320 from the server 110 to the application program memory area 220.")

-*"a second computer comprising the network attached computer"* (see Fig. 1 element 120) "*operative to:"*

-*"...in response to sending the notification of readiness, receive the new firmware image;"* (e.g. see column 6 lines 57-61: "Once this is completed, the new upgrade program is copied to the upgrade program memory area 230 and control of the device 120 is subsequently transferred to the new upgrade program 320 therein. A new application program is finally copied from the server 110 in the application program memory area 220 since the former application program was overwritten.")

All further limitations are addressed in the following rejections of claims **1**, **2**, and **9**.

In regard to claim **33**, **Lajoie** further discloses: *wherein the first computer is further operative to reboot the second computer utilizing the current firmware after the current firmware is updated with the new firmware image.* See FIG. 6, e.g. "Reset."

In regard to claim **36**, the above rejection of claim **32** is incorporated. All further limitations have been addressed in the following rejection of claim **13**.

In regard to claim **37**, all limitations have been addressed in the rejections of claims **9**, **16**, and **32**.

In regard to claim **38**, the above rejection of claim **37** is incorporated. All further limitations are addressed in the following rejection of claim **12**.

In regard to claim **40**, the above rejection of claim **37** is incorporated. All further limitations have been addressed in the above rejection of claims **1** and **13**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

19. Claims **1-3**, **6-9**, **12-15**, and **34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lajoie et al., US 7,093,244 (**Lajoie**) in view of Doherty et al., US 7,080,134 (**Doherty**) in view of "Java Network Programming, 2nd Edition" by Harold (**Harold**).

In regard to claim **1**, **Lajoie** discloses:

- "*A method for updating firmware on a plurality of computing devices over a distributed network...*" (E.g., see Figure 1 & Column 2, lines 65-Column 3, line 4), wherein a method for an upgrade server (manager) upgrading one or more devices is described.
- "*...receiving over the distributed network at the network attached computer, an instruction to begin a firmware recovery procedure, the instruction received while executing an operating system ...*" (E.g., see Figure 3 & Column 4, lines 20-23), wherein the server initiates the upgrade process by sending out the escape command to the application program (operating system) which controls the device.
- "*...receiving a new firmware image in fragments over the distributed network in the operating system independent environment; and in response to receiving the new firmware image, updating a current firmware within the network attached computer with the new firmware image, in the operating system independent environment.*" (E.g., see Figure 6 & Column 4, lines 32-39), wherein firmware may be upgraded from the server commands by the upgrade program independent of the operating system (application program). *Laroie* expressly discloses "The application program 310 is typically the control program [operating system] of the corresponding device 120." Accordingly, *Laroie* indeed teaches an operating system independent environment. Further, *Laroie* discloses distribution of the image in fragments. See column 5 lines 57-60, e.g. "packet."

But **Lajoie** does not expressly discloses "*...in response to receiving the instruction, rebooting the network attached computer to an operating system independent environment...*". However, **Doherty** discloses:

- "*...in response to receiving the instruction, rebooting the network attached computer to an operating system independent environment...*" (E.g., see Figure 3 & Column 7, lines 12-18), wherein upon receipt of the server command from the management server 710 the client is caused to boot to a specific program on the client such as the PXE. The PXE-enabled clients (may be plurality) may be managed by remote servers and configured to communicate with a remote server "[a]t a boot-up, but before loading an operating system into main memory". (See Column 1, lines 23-36). The PXE environment may then download and upgrade software including firmware.

Lajoie and **Doherty** are analogous art because they are both concerned with the same field of endeavor, namely, a method for updating or upgrading firmware in an operating system independent environment. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine **Doherty's** PXE with **Lajoie's** firmware upgrade method. The motivation to do so would have been to allow upgrading firmware via a network link to decrease memory requirements as taught by **Lajoie** (E.g., see Column 2, lines 57-61).

Lajoie does not expressly disclose specific details regarding communication protocol such as status requests, broadcast, or rebroadcast. However, Harold teaches reliable communication using the UDP protocol. In particular, Harold teaches:

- "*receiving a broadcast status request prior to updating the current firmware* ("ask the recipients to ... send you mail")*; in response to receiving the broadcast status request, determining whether a rebroadcast of any fragment of the new firmware image is necessary* ("telling you which letters arrived")*; in response to determining that the rebroadcast of one or more fragments is necessary, sending a request for the rebroadcast of the fragments* ("so that you can resend any that didn't get there the first time")*; in response to sending the request for the rebroadcast of the fragments, receiving the rebroadcast of the fragments in response to sending the request;* (E.g. see page 2 of section 13.1: "UDP, by contrast, is like the postal system. You send packets of mail to an address. Most of the letters arrive, but some may be lost on the way. The letters probably arrive in the order in which you sent them, but that's not guaranteed. The farther away you are from your recipient, the more likely it is that mail will be lost on the way or arrive out of order. If this is a problem, you can write sequential numbers on the envelopes, then **ask the recipients to arrange them in the correct order and send you mail telling you which letters arrived so that you can resend any that didn't get there the first time**. However, you and your correspondent need to agree on this protocol in advance. The post office will not do it for you." [emphasis added]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use **Harold's** teaching of reliable UDP with **Lajoie's** firmware update in order to reliably communicate using a fast protocol as suggested by **Harold** (see section 13.1).

In regard to claim **2**, the rejections of base claim **1** are incorporated. Furthermore, **Lajoie** discloses:

- "*...in response to ... sending a notification of readiness to update from the network attached computer over the distributed network to the manager computer.*" (E.g., see Figure 2 & Column 8, line 65-Column 9, line 7), wherein the server (manager) upgrades the plurality of client devices simultaneously (parallel) wherein the upgrade program communicates with the server in a lock step upgrade protocol.

See claim **1** for the remaining limitations.

In regard to claim **3**, the rejections of base claim **2** are incorporated. Furthermore, **Lajoie** discloses:

- "*...comprises erasing the current firmware and copying the new firmware image to a memory location of the network attached computer.*" (E.g., see Figure 4 & Column 4, lines 31-34), wherein the commands allow for remote erasing, reading and writing to the device 120 being upgraded by the upgrade server.

In regard to claim **6**, the rejection of base claim 1 is incorporated. **Lajoie** does not expressly disclose: missing fragments. However, **Harold** further teaches:

- "*...determining whether the rebroadcast of any fragments of the new firmware image is necessary comprises determining whether any fragments are missing or corrupted.*" (E.g., see page 2 of section 13.1: "resend any that didn't get there the first time.").

In regard to claims **7** and **8**, the rejection of base claim 1 is incorporated. Furthermore, **Harold** discloses "*fragments of the firmware image are numbered*" and "*a user datagram protocol/Internet protocol.*" (E.g., see page 2 of section 13.1: "sequential numbers"), wherein Harold teaches numbering fragments for UDP broadcast. Also see section 2.3 which discusses *user datagram protocol/Internet protocol.*

In regard to claim **9**, the rejection of base claim **1** is incorporated. **Lajoie** further discloses:

- "*monitoring a communication port of the network attached computer for the instruction to begin the recovery procedure*" (E.g., see column 4 lines 20-24), wherein the device responds to an "escape" instruction to begin recovery. Note that without monitoring, the device would be unable to respond to the instruction.

In regard to claim **12**, the rejection of base claim **2** is incorporated. **Lajoie** further discloses: "*...determining whether a current firmware is valid after being updated;* (e.g. see column 4 lines 35-39: "Alternatively, a device 120 may initiate the upgrade process if it determines that it holds a corrupted firmware (device-initiated upgrade)." Also see Fig. 5 "Power up or reset" and Fig. 6 "Reset" - validation occurs after every reset, and reset occurs after every update). *and when it is determined that a current firmware is valid then initiating a boot of the network attached computer utilizing the current firmware.*" (E.g., see column 7 lines 45-47: "If the firmware passes the CRC-16 integrity check, the FIC 350 transfers control to the application program 310.")

In regard to claim **13**, the rejection of base claim 1 is incorporated. Furthermore, **Lajoie** discloses:

- "...comprises a BIOS of the network attached computer." (E.g., see Figure 2).

In regard to claims **14** and **15**, see Figure 2, wherein a computer controlled apparatus and readable medium is disclosed. All further limitations have been addressed in the above rejection of claim 1.

In regard to claim **34**, the above rejection of claim **32** is incorporated. All further limitations have been addressed in the above rejections of claims **1**, **6**, and **8**.

20. Claim **10** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Lajoie**, **Doherty** and **Harold** as applied to claim 9, and further in view of Armingaud et al. US 2004/0181691 (hereinafter **Armingaud**) and Gregg et al. US 2002/0002688 (hereinafter **Gregg**).

In regard to claim **10**, the above rejection of claim **9** is incorporated. **Lajoie** further discloses: *wherein the communication port of the network attached computer is monitored by a recovery OS application* (E.g. see column 4 lines 22-24), wherein **Lajoie's** "normal operation mode" is reasonably broadly interpreted as a recovery OS application. **Lajoie**, **Doherty** and **Harold** do not expressly disclose: *...that monitors instruction activity upon only one communication port and utilizes additional processor resources on the network attached computer only upon receiving the instruction.* However, **Armingaud** discloses a daemon process that consumes no CPU time until awoken (See paragraph [0043]). Further, **Gregg** discloses a network daemon that listens for communications on a communication port (See

paragraph [0067]). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use **Armingaud's** and **Gregg's** daemons with Lajoie's communications in order to provide communication with reasonable cost as suggested by **Armingaud** (see paragraph [0043]) while using a well-known communication port as suggested by **Gregg** (see paragraph [0067]).

21. Claim **11** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Lajoie** in view of **Doherty** in view of **Harold**, as applied to claim **2**, and further in view of Craig et al., 6,266,809 (**Craig**).

In regard to claim **11**, the rejection of base claim **2** is incorporated. But the cited art of claim **2** does not expressly disclose "*...in response to updating the current firmware with the new firmware image, sending a notification of the update to the manager computer.*" However, **Craig** discloses:

- "*...in response to updating the current firmware with the new firmware image, sending a notification of the update to the manager computer.*" (E.g. see column 6 lines 63-67: "The network computer notifies the network server of the successful update (block 316) and then reboots to download the standard operating system (block 318) to complete the update process.").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use **Craig's** notification with **Lajoie's** update in order for an update server to verify the update process as suggested by **Craig** (see column 7 line 58 - column 8 line 2).

22. Claims **18-19, 24-26,** and **39** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lajoie** in view of **Harold**.

In regard to claim **18**, the above rejection of claim **17** is incorporated. **Lajoie** does not expressly disclose: *wherein the network address of the recovery manager computer is stored on the network attached computer*. However, **Howard** teaches use of IP addresses for network communication by utilizing DNS servers which store network addresses. See sections 2.3.1 and 6.1. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use **Howard's** teaching of address storage with **Lajoie's** computer in order to secure access to a recovery manager without the need for DNS as implied by **Howard**.

In regard to claim **19**, the above rejection of claim **17** is incorporated. **Lajoie** does not expressly disclose: *wherein the network address of the recovery manager computer is located by querying a baseboard management controller operating on the network attached computer.* However, **Howard** discloses the use of DNS to provide network addresses. See section 6.1. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use DNS as a baseboard management controller in order to use a hostname instead of a static address as suggested by **Howard** (see second page of section 6.1).

In regard to claims **24**, the above rejection of claim **17** is incorporated. All further limitations have been addressed in the following rejection of claim **1**.

In regard to claims **25** and **26**, the above rejection of claim **24** is incorporated. All further limitations have been addressed in the above rejection of claims **6** and **7**, respectively.

In regard to claim **39**, the above rejection of claim **37** is incorporated. All further limitations have been addressed in the above rejections of claims **1**, **6**, and **8**.

23. Claim **27** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Lajoie** and further in view of **Craig**.

In regard to claim **27**, the above rejection of claim **17** is incorporated. All further limitations have been addressed in the above rejection of claim **11**.

24. Claim **35** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Lajoie** as applied to claim **32** above, and further in view of U.S. 2003/0204843 to Barmettler et al. (hereinafter **Bartmettler**).

In regard to claim **35**, the above rejection of claim **32** is incorporated. **Lajoie** does not expressly disclose: "*wherein the system further comprises a display device wherein the first computer is further operative to display update status messages via the display device.*" However, **Bartmettler** discloses the use of a display device to display installation status messages (see paragraph [0037]). All further limitations have been addressed in the above rejection of claim **11**. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use **Bartmettler's** status display with **Lajoie's** system in order to inform a user of status that may prompt further action as suggested by **Barmettler** (see paragraph [0037]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (571)272-3703. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571)272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/J. Derek Rutten/
Patent Examiner, AU 2192